

Technical Presentations

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July 15, 1999**

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Technical Presentation Topics



- Introduction
- Preparation
- Speech Organization
- Visual Aids
- Presentation
- Summary

Introduction



- Q: What's the difference between a “regular” speech and a technical speech?
- A: Not much...

Preparation-A Simple Outline



- Analyze your audience
 - Background, knowledge level, needs
- State your objective
 - What should the audience learn?
- Define your main message and support it
 - What is your purpose?
 - Focus

Speech Organization-The Basics

■ Introduction

- Get their attention
- State your objective (*where are we going?*)

■ Body

- Logical Flow (*are we there yet?*)
- Clear (minimize the jargon)
- Build Understanding

■ Conclusions

- What did we learn?
- Where are we going next?

Visual Aids and Hindrances



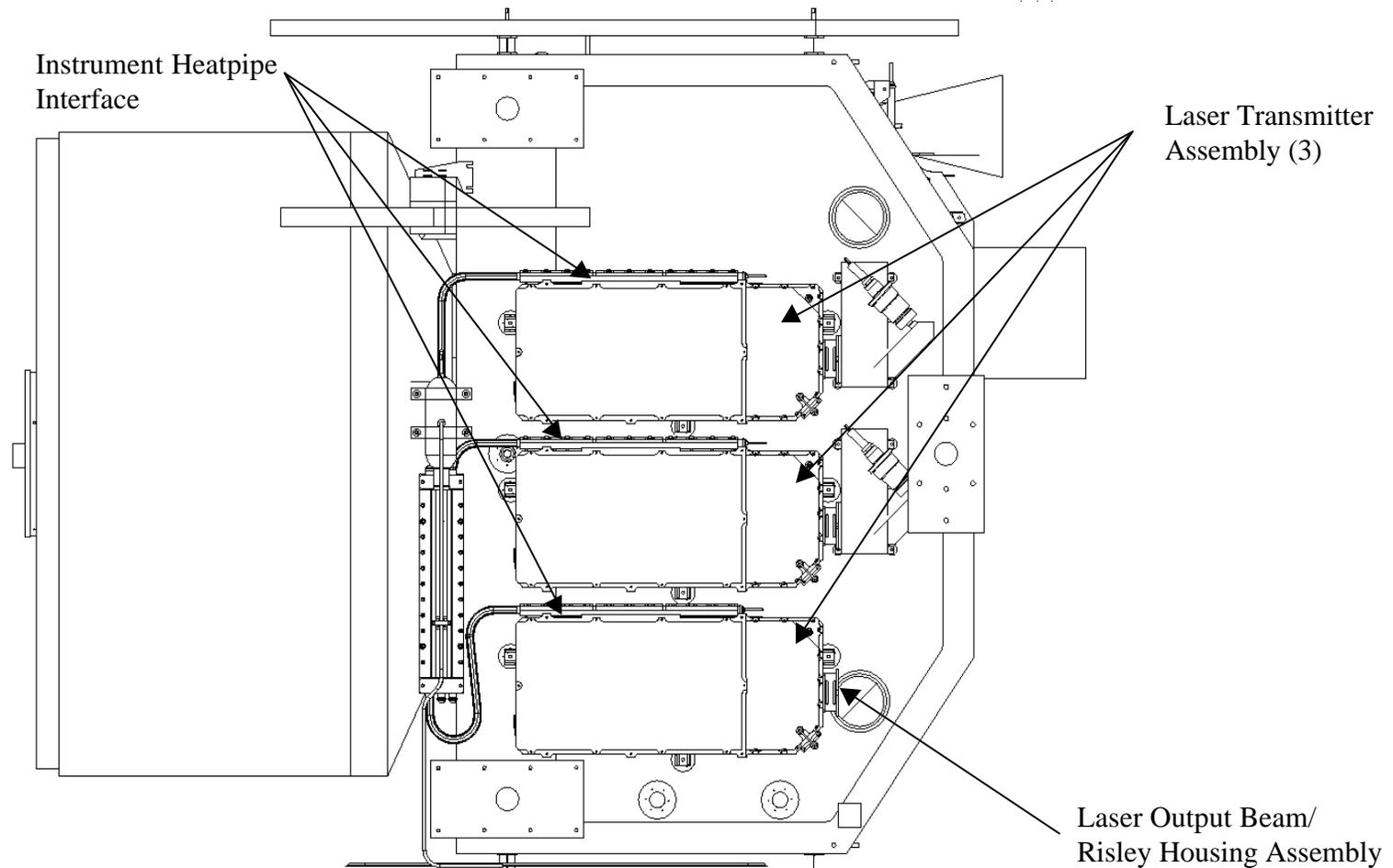
- Many options
 - Models, Slides, Video, Computer animation...
- Similar guidelines:
 - Keep them simple and legible
 - Don't get carried away with colors and fonts
 - Illustrate and support your points

The Good, the Bad, and the Ugly



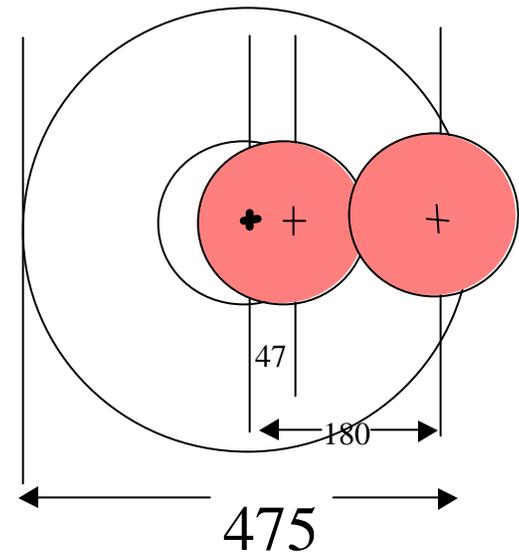
- Some examples...

Laser Transmitter General Arrangement



Resource Allocations: Alignment

- FOV 475 μrad , full angle 237.5 half angle
- Spot Size: 82.5 μrad half angle, blur included
 - the boresight can be offset 180 μrads and still provide >90% energy
- Look Behind, half angle: 47 μrad
- Error remaining for offset: **133 μrad**
- Errors in Ability to Correct Offset, half angle:
 - Laser 50 μrad
 - Mechanical 90 μrad
 - Boresighting 58 μrad
- Expected Jitter (3σ), half:
 - Laser shot to shot 15 μrad
 - Atmospheric 15 μrad
- Add offsets and 3 sigma jitter 229 μrad
- RSS offsets + 1 sigma jitter **128 mrad**



FLIGHT HARDWARE DESIGN, FABRICATION, ASSEMBLY & TESTING

- As the design has been proven in breadboard and engineering units, we will establish this as a baseline.
- All changes to the design will be done through the formal Configuration Change Request process and documented with configuration management.
- The engineering units were built using lab notebooks and cert logs but the flight hardware will utilize the work order authorization process as required in GPG 8730.3, GSFC Quality Manual.
- We will use the RFJ/PQ system to document and close all nonconformances during the flight hardware fabrication and test activities.
- Oversight of fabrication and subsystem level test activities at GSFC and Yoyodyne will be accomplished by the use of audits in lieu of mandatory inspection points except as needed for special processes or with subcontractors whose quality system may not meet the ISO intent.
- System design reviews have been established at both GSFC and Yoyodyne with project and contractor support at all reviews.
- OFA witnessing of all end item testing will be done both at GSFC and Yoyodyne.

The Presentation-Some Thoughts



- Timing

- :30-1:00 per slide

- Stay on time

- Talk to your audience

- The screen doesn't care what you're saying.

- Use a pointer

The Presentation (Continued)



- Be Prepared
 - Have all visual aids ready
 - Be familiar with equipment (*does it work?*)
- Practice, practice, practice
 - Your speech
 - Use of visual aids
 - Answering questions
 - Enlist your friends

In Conclusion



- Be clear and focused
 - State your objectives
- Organize your speech
- Use visual aids effectively
- Practice

*A good technical speech still has to be
a good speech*